


[Advanced Search](#)
[Preferences](#)
[Language Tools](#)
[Search Tips](#)

[W b](#) - [Images](#) - [Groups](#) - [Directory](#) - [News](#)
Searched the web for "**optical path simulation**" laser printer.Results **1** - **1** of **1**. Search took **0.19** seconds.Try [Google Answers](#) to get help from expert researchers.**LASER PRINTER Savings at Office Depot! Online Deals - Buy Now**

Sponsored Link

www.officedepot.com Weekly Discounts, Rebate Offers & More - Fast Delivery
Simulation - witness

Sponsor

www.lanner.com/corporate Business Performance Improvement, **simulation** software and services

Lin

[doc]ES04 記憶體專題研究

Sponsored Links

File Format: Microsoft Word 97 - [View as HTML](#)... we have allows domestic **printer** system manufacturers ... advanced theory and complicated**optical path simulation** analysis including ... CD and DVD **laser** unit together ...
investintaiwan.nat.gov.tw/moea-web/InvestOpps/
Type/50InvestOpps/optoelectronics.doc - [Similar pages](#)**Oki Data Laser Printers**Unbeatable Prices & Fast Delivery
Great Warranty!
www.vecmar.com
Interest: **Laser Printer**Free Delivery for Orders \$25 and Up
Save up to 69% at Viking!
www.vikingop.com
Interest: **Surplus Sellers**Used Computer and Electronics
Laser printer resale and rental
<http://www.surplussell.com>
Interest: **Laser Printer**Find low prices here!
Compare products & prices.
www.pricegrabber.com
Interest: **Free Printers**Free Color Laser Printers for
Business, School, Church or Charity
www.FreePrinters.com
Interest: **HP LaserJet Printer Sale**Refurbished HP business class laser
1 year warranty. On Sale Today.
landmarkprinters.com
Interest: **Laser Printer**Find the lowest prices. 1000's of
Stores, Millions of Products!
www.BizRate.com
Interest:

Printer Laser

Find the best deal! Compare prices,
Reviews and More - CNET Shopper.com
shopper.cnet.com
Interest: **_____**

[See your message here...](#)

[Search within results](#)

Dissatisfied with your search results? [Help us improve.](#)

[Google Home](#) - [Advertise with Us](#) - [Business Solutions](#) - [Services & Tools](#) - [Jobs, Press, & Help](#)

©2003 Google


[Advanced Search](#)
[Preferences](#)
[Language Tools](#)
[Search Tips](#)

[Web](#) - [Images](#) - [Groups](#) - [Directory](#) - [News](#)

LASER PRINTER Savings at Office Depot! Online Deals - Buy Now

www.officedepot.com Weekly Discounts, Rebate Offers & More - Fast Delivery

Sponsored Link

Simulation - witness

www.lanner.com/corporate Business Performance Improvement, **simulation** software and services

Sponsor

Lin

Your search - "**light path simulation**" laser printer - did not match any documents.

Suggestions:

- Make sure all words are spelled correctly.
- Try different keywords.
- Try more general keywords.
- Try fewer keywords.

Also, you can try [Google Answers](#) for expert help with your search.

Sponsored Links

Oki Data Laser Printers

 Unbeatable Prices & Fast Delivery
Great Warranty!

www.vecmar.com
Interest:

Laser Printer

 Free Delivery for Orders \$25 and Up
Save up to 69% at Viking!

www.vikingop.com
Interest:

Surplus Sellers

 Used Computer and Electronics
Laser printer resale and rental

<http://www.surplussell.com>
Interest:

Lasertainment Laser Shows

 Worldwide laser light shows!
Special events, fairs, & festivals

www.lasertainment.com
Interest:

LightOutlet.com

 Online Lighting Showroom.
Terrific Selection and Service.

www.LightOutlet.com
Interest:

Laser Printer

Comparison shop here!

List products by price & more.

www.pricegrabber.com
Interest:

Shop at Lamps Plus.com

 All styles and brands. Low prices.
Over 1,000,000 customers a year!

www.lampsplus.com
Interest:

Free Printers

Free Color Laser Printers for
Business, School, Church or Charity
www.FreePrinters.com
Interest:

[See your message here...](#)

[Google Home](#) - [Advertise with Us](#) - [Business Solutions](#) - [Services & Tools](#) - [Jobs, Press, & Help](#)

©2003 Google


[Advanced Search](#)
[Preferences](#)
[Language Tools](#)
[Search Tips](#)

[Web](#) · [Images](#) · [Groups](#) · [Directory](#) · [News](#)

Searched the web for "optical path" simulation laser printer (3D OR 3-D). Results 1 - 10 of about 69. Search to

LASER PRINTERS - LOWEST Prices at DealTime - Click HERE!

Sponsored Link

www.DealTime.com Compare Prices from 1,000s of Stores - Find the Best Deals HERE!

Simulation - witness

Sponsored Link

www.lanner.com/corporate Business Performance Improvement, **simulation** software and services

Lin

[PDF]CComplishments

Sponsored Links

 File Format: PDF/Adobe Acrobat - [View as HTML](#)

 ... Virtual aquarium, virtual museum, training **simulation** virtual classroom ...
 the scanning

 duration of a **laser** system is ... function is to switch the **optical path** and it ...

www.oes.itri.org.tw/attachfiles/other/aboutoes/endm.pdf - [Similar pages](#)

HP Laser Printers

 Find out why businesses choose HP
 printers over all other brands.

www.hp.com/business
Interest:

[PDF]Poster?Papers?PSI:?...

 File Format: PDF/Adobe Acrobat - [View as HTML](#)

 ... I V a : ? S i m u l a t i o n / ... L a s e r ? C u t ? K e r f ... V
 a c u u m e d ? O p t i c a l ? P a t h ? L a s e r ? ...

www.ina.sd.keio.ac.jp/10thICPE/program/download_file/P7.pdf - [Similar pages](#)

Oki Laser Printers - Save

 Low Prices & Immediate Delivery
 Okidata Authorized Reseller & ASC

www.vecmar.com
Interest:

[PDF]HITACHI TECHNOLOGY 2002-2003

File Format: PDF/Adobe Acrobat

 ... over Broadband Network Broadband network **Simulation**-ride system ...
 Its 257- nm deep

 UV **laser** enables the ... automatic re-alignment of the **optical path**, the
 ability ...

global.hitachi.com/Sp/TJ-e/2002/technology/technology5.pdf - [Similar pages](#)

Laser Printer

 Free Delivery for Orders \$25 and Up
 Save up to 69% at Viking!

www.vikingop.com
Interest:

Surplus Sellers

 Used Computer and Electronics
 Laser printer resale and rental

<http://www.surplussell.com>
Interest:

SPIE Proceedings Vol. 2885

 ... Abstract: A novel equivalent **optical path** polarized light ... grating was
 about 67 percent
 through BPM **simulation**. ... grating was fabricated using **laser** beam
 writer ...

www.spie.org/web/abstracts/2800/2885.html - 46k - [Cached](#) - [Similar pages](#)

Laser Printer

 Comparison shop here!
 List products by price & more.

www.pricegrabber.com
Interest:

[PDF]Current Status of the Laser Diode Array Projector Technology

 File Format: PDF/Adobe Acrobat - [View as HTML](#)

 ... stage positions the correct telescope in the **optical path**. ... and JB
 Cooper, "Diode

Laser Arrays for ... Characterization, Propagation, and **Simulation** of
 Sources ...

www.opticalsciences.com/Engineering/projectors/Papers/SPIE98c.pdf -

[Similar pages](#)

Free Printers

 Free Color Laser Printers for
 Business, School, Church or Charity

www.FreePrinters.com
Interest:

HP LaserJet Printer Sale

 Refurbished HP business class laser
 1 year warranty. On Sale Today.

landmarkprinters.com
Interest:

[PDF]Fundamental Concepts

 File Format: PDF/Adobe Acrobat - [View as HTML](#)

Laser Engraved Crystal

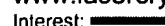
... optical lever : optical galvanometer; **laser printer** * The law ... classrooms
for a useful

simulation illustrating Fermat's ... point must have the same **optical path**. ...

3D Laser Systems

Crystal Product Line

www.lasercrystalworks.com/sales

Interest: 

www.abdn.ac.uk/physics/px3009/fund.pdf - [Similar pages](#)

[See your message here...](#)

[\[PDF\] ASAP Technical Summary](#)

File Format: PDF/Adobe Acrobat - [View as HTML](#)

... Physical optics (**laser** scanners, interferometers, diffraction ... high-fidelity source
simulation is often ... polygons, spots diagrams, **optical path** difference (OPD ...

www.breault.com/ftp/docs/bro0400_techsumm.pdf - [Similar pages](#)

[British Plastics & Rubber Interplas 2002 Preview](#)

... to offer accurate daylight **simulation** while giving ... range of vision and **laser** measurement
systems. ... The continuous **optical path** - without digital conversion - of ...

www.polymer-age.co.uk/i2/i2test.htm - 61k - [Cached](#) - [Similar pages](#)

[FH Heilbronn M+M: Courses and Credits \(english\)](#)

... Part 2: Analysis and **simulation** of dynamic systems using ... of different printing systems:
pin, thermo, **laser**, ink jet ... **Optical path** difference and phase difference ...


www.mm.fh-heilbronn.de/ects/vorl-e.htm - 85k - [Cached](#) - [Similar pages](#)

[\[PDF\] ECTS-Programme Content of Courses with Credit Points](#)

File Format: PDF/Adobe Acrobat - [View as HTML](#)

... linear regulators, diodes, transistors, **simulation** with PSPICE ... printing systems:
pin, thermo, **laser**, ink jet ... **Optical path** difference and phase difference. ...

www.mm.fh-heilbronn.de/files/ects-e.pdf - [Similar pages](#)

Go o o o o o o o o g l e 

Result Page: [1](#) [2](#) [3](#) [4](#) [5](#) [6](#) [7](#) [Next](#)

"optical path" simulation laser pri

Google Search

[Search within results](#)

Dissatisfied with your search results? [Help us improve.](#)

[Google Home](#) - [Advertise with Us](#) - [Business Solutions](#) - [Services & Tools](#) - [Jobs](#), [Press](#), & [Help](#)

©2003 Google

Search terms

IEEE Search terms

(optic <or> optical <or> laser <or> photo <or> light <or> (photo <near/1> electric) <or> (electro <near/1> photo <near/1> graph)) <near/10> (path <or> beam <or> route <or> trajectory <or> trajectories <or> direction <or> axis <or> axes) <near/10> (simulate <or> simulation <or> simulating <or> emulate <or> emulation <or> emulating <or> model <or> modeling <or> modelling <or> calculate <or> calculation <or> calculating <or> calibrate <or> calibrating <or> calibration)

(optic <or> optical <or> laser <or> photo <or> light <or> (photo <near/1> electric) <or> (electro <near/1> photo <near/1> graph)) <near/10> (path <or> beam <or> route <or> trajectory <or> trajectories <or> direction <or> axis <or> axes) <near/10> (simulate <or> simulation <or> simulating <or> emulate <or> emulation <or> emulating <or> model <or> modeling <or> modelling <or> calculate <or> calculation <or> calculating <or> calibrate <or> calibrating <or> calibration <or> control <or> controlling <or> controlling <or> test <or> testing <or> measure <or> measuring) <and> (printer <or> printers <or> printing <or> electrophotography)

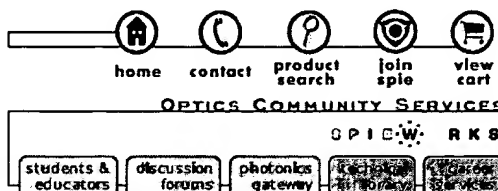
ACM Search terms

(optic OR optical OR laser OR photo OR light OR (electro AND photo AND graph)) AND (path OR beam OR route OR trajectory OR trajectories OR direction OR axis OR axes) AND (simulate OR simulation OR simulating OR emulate OR emulation OR emulating OR model OR modeling OR modelling OR calculate OR calculation OR calculating OR calibrate OR calibrating OR calibration OR control OR controlling OR controlling OR test OR testing OR measure OR measuring)

(optic OR optical OR laser OR photo OR light OR (electro AND photo AND graph)) AND (path OR beam OR route OR trajectory OR trajectories OR direction OR axis OR axes) AND (simulate OR simulation OR simulating OR emulate OR emulation OR emulating OR model OR modeling OR modelling OR calculate OR calculation OR calculating OR calibrate OR calibrating OR calibration OR control OR controlling OR controlling OR test OR testing OR measure OR measuring) AND (printer OR printers OR printing OR electrophotography)

SPIE Web

The website for optics, photonics, and imaging

**PUBLICATIONS**[SPIE HOME](#)[PUBLICATIONS](#)[CONFERENCES](#)[EXHIBITIONS](#)[MEMBERSHIP](#)[EDUCATION](#)[SPIE Bookstore](#)[JOURNALS](#)[PROCEEDINGS](#)[SPIE PRESS](#)[MAGAZINES](#)[AUTHOR INFORMATION](#)[ADVANCED SEARCH](#)SEARCH PUBLICATIONS »
USING INCITE®☐ Volumes☒ Papers

view cart

BROWSE PUBLICATIONS

- [Aerospace, Remote Sensing, & Astronomy](#)
- [Automation, Inspection, & Product Engineering](#)
- [Biomedical Optics](#)
- [Communications & Fiber Optics](#)
- [Electronic Imaging, Displays, & Medical Imaging](#)
- [Lasers & Applications](#)
- [Microelectronics, Optoelectronics, & Micromachining](#)
- [Optical Physics, Chemistry, & Biology](#)
- [Optical Science & Engineering](#)
- [Signal & Image Processing](#)

Paper Search Results**PUBLICATIONS**

Find more information on "Heinol, Horst G.":

► Search the [SPIE Technical Forums](#)► Search the [SPIE Short Courses](#)Sort by SortPapers 1 to 12 of 12 [\[Show Abstracts\]](#)

Prices: SPIE Members / Non-Members (list price)

Abstract	Simulation of the optical transmission in 3D Imaging systems based on the principle of time-of-flight	Paper
Buy	Tal, Wei; Schwarte, Rudolf; Heinol, Horst G.	Vol. 4093
Paper copy		\$12/\$15
Abstract	New electro-optical mixing and correlating sensor: facilities and applications of the photonic mixer device (PMD)	Paper
Buy	Schwarte, Rudolf; Xu, Zhanping; Heinol, Horst G.; Olk, Joachim; Klein, Ruediger; Buxbaum, Bernd; Fischer, Helmut; Schulte, Juergen	Vol. 3100
Paper copy		\$12/\$15
Abstract	Electro-optical correlation arrangement for fast 3D cameras: properties and facilities of the electro-optical mixer device	Paper
Buy	Heinol, Horst G.; Xu, Zhanping; Schwarte, Rudolf; Olk, Joachim; Klein, Ruediger	Vol. 3100
Paper copy		\$12/\$15
Abstract	New optical four-quadrant phase detector integrated into a photogate array for small and precise 3D cameras	Paper
Buy	Schwarte, Rudolf; Xu, Zhanping; Heinol, Horst G.; Olk, J.; Buxbaum, Bernd	Vol. 3023
Paper copy		\$12/\$15
Abstract	Simulation of a 3D-color vision system based on synthetic nonlinear modulation	Paper
Buy	Xu, Zhanping; Schwarte, Rudolf; Heinol, Horst G.; Lange, Robert; Li, J.	Vol. 2904
Paper copy		\$12/\$15
Abstract	Model of synthetic nonlinear modulation and its algorithm for 3D color vision system	Paper
Buy	Xu, Zhanping; Heinol, Horst G.; Schwarte, Rudolf; Loffeld, Otmar; Klein, Ruediger; Olk, J.	Vol. 2774
Paper copy		\$12/\$15
Abstract	New optical 2D modulators of large aperture for 3D-vision systems	Paper
Buy	Heinol, Horst G.; Xu, Zhanping; Schwarte, Rudolf; Loffeld, Otmar	Vol. 2774
Paper copy		\$12/\$15
Abstract	Power transmittance of optimized aspherical lens with large numerical aperture	Paper
Buy	Xu, Zhanping; Bundschuh, Bernhard O.; Schwarte, Rudolf; Loffeld, Otmar; Klaus, Ferdinand; Heinol, Horst G.; Klein, Ruediger	Vol. 2775
Paper copy		\$12/\$15
Abstract	Optimization of precision aspheric lenses for advanced small sensor heads of large numerical aperture	Paper
Buy	Xu, Z.; Bundschuh, Bernhard O.; Schwarte, Rudolf; Loffeld, Otmar; Klaus, Ferdinand; Heinol, Horst G.	Vol. 2600
Paper copy		\$12/\$15

4/17/03

		12/15
Abstract	New optical 2D modulator jacketed in rotational plastic optics	Paper
Buy	Heinol, Horst G.; Xu, Z.; Schwarte, Rudolf; Loffeld, Otmar	<u>Vol. 2600</u>
<u>Paper copy</u>		\$12/\$15
Abstract	New active 3D vision system based on r²-modulation Interferometry of Incoherent light	Paper
Buy	Schwarte, Rudolf; Heinol, Horst G.; Xu, Z.; Hartmann, Klaus	<u>Vol. 2588</u>
<u>Paper copy</u>		\$12/\$15
Abstract	Enhanced multiprobing recovering algorithm based on color mixed nonlinear modulation and its application in a 3D vision system	Paper
Buy	Xu, Z.; Heinol, Horst G.; Schwarte, Rudolf; Loffeld, Otmar	<u>Vol. 2588</u>
<u>Paper copy</u>		\$12/\$15
Sort by <input type="text" value="Score"/> <input type="button" value="Sort"/>		

[| SPIE Home](#) | [Publications](#) | [Conferences](#) | [Exhibitions](#) | [Membership](#) | [Education](#) |

Telephone: +1 360/676-3290 | Fax +1 360/647-1445 | Email: spie@spie.org

© 1994-2002 SPIE—The International Society for Optical Engineering


[Advanced Search](#) [Preferences](#) [Language Tools](#) [Search Tips](#)

"optical path" simulation laser prii

Google Search

[Web](#) · [Images](#) · [Groups](#) · [Directory](#) · [News](#)

Searched the web for "optical path" simulation laser printer. Results 1 - 10 of about 140. Search took 0.18 sec

LASER PRINTER Savings at Office Depot! Online Deals - Buy Now

Sponsored Link

www.officedepot.com Weekly Discounts, Rebate Offers & More - Fast Delivery

Simulation - witness

Sponsor

www.lanner.com/corporate Business Performance Improvement, simulation software and services

Lin

[PDF]CComplishmentsFile Format: PDF/Adobe Acrobat - [View as HTML](#)

... Virtual aquarium, virtual museum, training simulation virtual classroom ... the scanning

duration of a laser system is ... function is to switch the optical path and it ...

www.oes.itri.org.tw/attachfiles/ other/aboutoes/endm.pdf - [Similar pages](#)

Sponsored Links

Oki Laser Printers - Save

Low Prices & Immediate Delivery

Okidata Authorized Reseller & ASC

www.vecmar.com

Interest:

[PDF]P o s t e r ? P a p e r s ? P S I : ? ...File Format: PDF/Adobe Acrobat - [View as HTML](#)

... l V a : ? S i m u l a t i o n / ... L a s e r ? C u t ? K e r f ... V a c u u m e d ? O p t i c a l ? P a t h ? L a s e r ? ...

www.ina.sd.keio.ac.jp/10thICPE/ program/download_file/P7.pdf - [Similar pages](#)**Laser Printer**

Free Delivery for Orders \$25 and Up

Save up to 69% at Viking!

www.vikingop.com

Interest:

[PDF]Current Status of the Laser Diode Array Projector TechnologyFile Format: PDF/Adobe Acrobat - [View as HTML](#)

... stage positions the correct telescope in the optical path. ... and JB Cooper, "Diode

Laser Arrays for ... Characterization, Propagation, and Simulation of Sources ...

www.opticalsciences.com/Engineering/ projectors/Papers/SPIE98c.pdf - [Similar pages](#)**Surplus Sellers**

Used Computer and Electronics

Laser printer resale and rental

http://www.surplussell.com

Interest:

Laser Printer

Find low prices here!

Compare products & prices.

www.pricegrabber.com

Interest:

S&TR | March 2003

... a surface ripple experiences the same optical path as light ... This

simulation shows

some of the early steps in the ... when illuminated with 532-nanometer laser light ...

www.lnl.gov/str/March03/Hyde.html - 47k - [Cached](#) - [Similar pages](#)**Free Printers**

Free Color Laser Printers for

Business, School, Church or Charity

www.FreePrinters.com

Interest:

PRODUCT NEWS: OCTOBER 1997

... scan results during set-up, and a simulation of the ... independent control over the focal

length of the optical path. ... range of helium neon (HN) and laser diode (LD ...

www.dotprint.com/fgen/prod1097.htm - 15k - [Cached](#) - [Similar pages](#)**HP LaserJet Printer Sale**

Refurbished HP business class laser

1 year warranty. On Sale Today.

landmarkprinters.com

Interest:

SPIE Proceedings Vol. 2885

... Abstract: A novel equivalent optical path polarized light ... grating was about 67 percent

through BPM simulation. ... grating was fabricated using laser beam writer ...

www.spie.org/web/abstracts/2800/2885.html - 46k - [Cached](#) - [Similar pages](#)**Laser Printer**

Find the lowest prices. 1000's of

Stores, Millions of Products!


www.BizRate.com

Interest:

Print r Laser

[PDF] HITACHI TECHNOLOGY 2002-2003

File Format: PDF/Adobe Acrobat

... over Broadband Network Broadband network **Simulation**-ride system ... Its 257- nm deepUV **laser** enables the ... automatic re-alignment of the **optical path**, the ability ...global.hitachi.com/Sp/TJ-e/2002/ technology/technology5.pdf - [Similar pages](#)Find the best deal! Compare prices,
Reviews and More - CNET Shopper.com
shopper.cnet.com
Interest: [See your message here...](#)**[PDF] Fundamental Concepts**File Format: PDF/Adobe Acrobat - [View as HTML](#)... optical lever : optical galvanometer; **laser printer** * The law ... classrooms for a useful **simulation** illustrating Fermat's ... point must have the same **optical path**. ...www.abdn.ac.uk/physics/px3009/fund.pdf - [Similar pages](#)**AOE 3054 Experiment #4 LASER DOPPLER ANEMOMETRY**... flow, or there is simply no clear **optical path** through the ... rear of the water tunnel where the **laser** beams will ... probably want this flow to be a **simulation** of a ...www.aoe.vt.edu/~devenpor/aoe3054/ manual/expt4/text.html - 68k - [Cached](#) - [Similar pages](#)**[PDF] Experiment 4 - LASER DOPPLER ANEMOMETRY**File Format: PDF/Adobe Acrobat - [View as HTML](#)... the flow, or there is simply no clear **optical path** through the ... 9 of 22 AOE 3054 Experiment #4 **LASER DOPPLER ANEMOMETRY** ... want this flow to be a **simulation** of a ...www.aoe.vt.edu/~devenpor/aoe3054/ manual/expt4/expt4.pdf - [Similar pages](#)

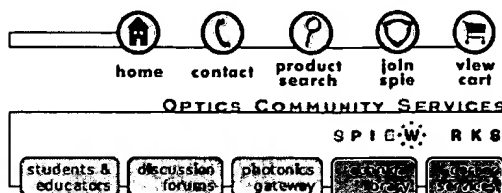
Goooooooooooooogle ►

Result Page: 1 2 3 4 5 6 7 8 9 10 [Next](#)[Search within results](#)Dissatisfied with your search results? [Help us improve.](#)[Google Home](#) - [Advertise with Us](#) - [Business Solutions](#) - [Services & Tools](#) - [Jobs, Press, & Help](#)

©2003 Google

SPIE Web

The website for optics, photonics, and imaging

**PUBLICATIONS**[SPIE HOME](#)[PUBLICATIONS](#)[CONFERENCES](#)[EXHIBITIONS](#)[MEMBERSHIP](#)[EDUCATION](#)[SPIE STORE](#)[JOURNALS](#)[PROCEEDINGS](#)[SPIE PRESS](#)[MAGAZINES](#)[AUTHOR INFORMATION](#)[ADVANCED SEARCH](#)SEARCH PUBLICATIONS »
USING INCITE®☐ Volumes☒ Papers**GO**

view cart

BROWSE PUBLICATIONS

- [Aerospace, Remote Sensing, & Astronomy](#)
- [Automation, Inspection, & Product Engineering](#)
- [Biomedical Optics](#)
- [Communications & Fiber Optics](#)
- [Electronic Imaging, Displays, & Medical Imaging](#)
- [Lasers & Applications](#)
- [Microelectronics, Optoelectronics, & Micromachining](#)
- [Optical Physics, Chemistry, & Biology](#)
- [Optical Science & Engineering](#)
- [Signal & Image Processing](#)

Paper Search Results**PUBLICATIONS**

Find more information on "Schwarte, Rudolf":

► Search the [SPIE Technical Forums](#)► Search the [SPIE Short Courses](#)Sort by Papers 1 to 25 of 25 [\[Show Abstracts\]](#)

Prices: SPIE Members / Non-Members (list price)

Abstract	Phase-lock techniques using new correlation receivers for TOF-laser ranging	Paper
Buy	Zhang, Zhigang; Hess, Holger; Ringbeck, Thorsten; Schwarte, Rudolf	Vol. 4723
Paper copy		\$12/\$15
Abstract	MSM-PMD as correlation receiver in a new 3D-ranging system	Paper
Buy	Buxbaum, Bernd; Schwarte, Rudolf; Ringbeck, Thorsten; Grothof, Markus; Luan, Xuming	Vol. 4546
Paper copy		\$12/\$15
Abstract	Three-dimensional intelligent sensing based on the PMD technology	Paper
Buy	Luan, Xuming; Schwarte, Rudolf; Zhang, Zhigang; Xu, Zhanping; Heinol, Horst-Guenther; Buxbaum, Bernd; Ringbeck, Thorsten; Hess, H.	Vol. 4540
Paper copy		\$12/\$15
Abstract	Wireless LAN based on optical CDMA using a new high-speed correlation receiver (MSM-PMD)	Paper
Buy	Buxbaum, Bernd; Schwarte, Rudolf; Ringbeck, Thorsten; Grothof, Markus; Sluiter, A.; Frey, J.; Hildebrand, M.; David, Klaus	Vol. 4530
Paper copy		\$12/\$15
Abstract	Optical GMSK modem for infrared wireless communication based on a new receiver principle in CMOS technology	Paper
Buy	Ringbeck, Thorsten; Schwarte, Rudolf; Buxbaum, Bernd; Hess, Holger	Vol. 4292
Paper copy		\$12/\$15
Abstract	Diffraction optical element for an electro-optical interface based on photonic mixer device (PMD)	Paper
Buy	Tai, Wei; Schwarte, Rudolf; Buxbaum, Bernd	Vol. 4093
Paper copy		\$12/\$15
Abstract	Simulation of the optical transmission in 3D imaging systems based on the principle of time-of-flight	Paper
Buy	Tai, Wei; Schwarte, Rudolf; Heinol, Horst G.	Vol. 4093
Paper copy		\$12/\$15
Abstract	Synchronization in spread spectrum laser radar systems based on PMD-DLL	Paper
Buy	Buxbaum, Bernd; Schwarte, Rudolf; Ringbeck, Thorsten; Luan, X.; Zhang, Z.; Xu, Zhanping; Hess, H.	Vol. 4035
Paper copy		\$12/\$15
Abstract	Introduction of a new opto-electrical phase-locked loop in CMOS technology: the PMD-PLL	Paper
Buy	Ringbeck, Thorsten; Schwarte, Rudolf; Buxbaum, Bernd	Vol. 3850
Paper copy		\$12/\$15
Abstract	PMD-PLL: receiver structure for incoherent communication and ranging systems	Paper

Buy Paper copy	Buxbaum, Bernd; Schwarte, Rudolf; Ringbeck, Thorsten	Vol. 3850 \$12/\$15
Abstract	Time-of-flight range imaging with a custom solid state image sensor	Paper
Buy Paper copy	Lange, Robert; Seitz, Peter; Biber, Alice; Schwarte, Rudolf	Vol. 3823 \$12/\$15
Abstract	New electro-optical mixing and correlating sensor: facilities and applications of the photonic mixer device (PMD)	Paper
Buy Paper copy	Schwarte, Rudolf; Xu, Zhanping; Heinol, Horst G.; Olk, Joachim; Klein, Ruediger; Buxbaum, Bernd; Fischer, Helmut; Schulte, Juergen	Vol. 3100 \$12/\$15
Abstract	Electro-optical correlation arrangement for fast 3D cameras: properties and facilities of the electro-optical mixer device	Paper
Buy Paper copy	Heinol, Horst G.; Xu, Zhanping; Schwarte, Rudolf; Olk, Joachim; Klein, Ruediger	Vol. 3100 \$12/\$15
Abstract	New optical four-quadrant phase detector integrated into a photogate array for small and precise 3D cameras	Paper
Buy Paper copy	Schwarte, Rudolf; Xu, Zhanping; Heinol, Horst G.; Olk, J.; Buxbaum, Bernd	Vol. 3023 \$12/\$15
Abstract	Optimization of laser ranging system in the case of colored noise	Paper
Buy Paper copy	Li, Jiangming; Loffeld, Otmar; Schwarte, Rudolf; Buxbaum, Bernd; Xu, Zhanping	Vol. 2904 \$12/\$15
Abstract	Simulation of a 3D-color vision system based on synthetic nonlinear modulation	Paper
Buy Paper copy	Xu, Zhanping; Schwarte, Rudolf; Heinol, Horst G.; Lange, Robert; Li, J.	Vol. 2904 \$12/\$15
Abstract	Model of synthetic nonlinear modulation and its algorithm for 3D color vision system	Paper
Buy Paper copy	Xu, Zhanping; Heinol, Horst G.; Schwarte, Rudolf; Loffeld, Otmar; Klein, Ruediger; Olk, J.	Vol. 2774 \$12/\$15
Abstract	New optical 2D modulators of large aperture for 3D-vision systems	Paper
Buy Paper copy	Heinol, Horst G.; Xu, Zhanping; Schwarte, Rudolf; Loffeld, Otmar	Vol. 2774 \$12/\$15
Abstract	Power transmittance of optimized aspherical lens with large numerical aperture	Paper
Buy Paper copy	Xu, Zhanping; Bundschuh, Bernhard O.; Schwarte, Rudolf; Loffeld, Otmar; Klaus, Ferdinand; Heinol, Horst G.; Klein, Ruediger	Vol. 2775 \$12/\$15
Abstract	Optimization of precision aspheric lenses for advanced small sensor heads of large numerical aperture	Paper
Buy Paper copy	Xu, Z.; Bundschuh, Bernhard O.; Schwarte, Rudolf; Loffeld, Otmar; Klaus, Ferdinand; Heinol, Horst G.	Vol. 2600 \$12/\$15
Abstract	New optical 2D modulator jacketed in rotational plastic optics	Paper
Buy Paper copy	Heinol, Horst G.; Xu, Z.; Schwarte, Rudolf; Loffeld, Otmar	Vol. 2600 \$12/\$15
Abstract	New active 3D vision system based on rf-modulation interferometry of incoherent light	Paper
Buy Paper copy	Schwarte, Rudolf; Heinol, Horst G.; Xu, Z.; Hartmann, Klaus	Vol. 2588 \$12/\$15
Abstract	Enhanced multiprobing recovering algorithm based on color mixed nonlinear modulation and its application in a 3D vision system	Paper
Buy Paper copy	Xu, Z.; Heinol, Horst G.; Schwarte, Rudolf; Loffeld, Otmar	Vol. 2588 \$12/\$15
Abstract	Novel scheme for minimizing the error of delay time in a distance sensor	Paper
Buy Paper copy	Schwarte, Rudolf; Li, Jiangming; Klein, Ruediger	Vol. 2247 \$12/\$15
Abstract	Simulation and experimental verification of a low-cost pseudo-noise modulated optical radar	Paper

Buy Klein, Ruediger; Li, Jiangming; Bundschuh, Bernhard O.; Schwarte, Rudolf
Paper copy

Vol. 1936

\$12/\$15

Sort by Score Sort

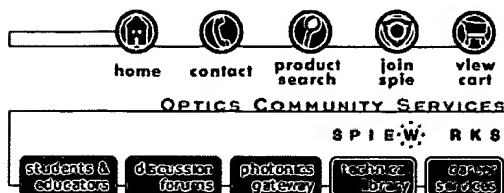
| [SPIE Home](#) | [Publications](#) | [Conferences](#) | [Exhibitions](#) | [Membership](#) | [Education](#) |

Telephone: +1 360/676-3290 | Fax +1 360/647-1445 | Email: spie@spie.org

© 1994-2002 SPIE—The International Society for Optical Engineering

SPIE Web

The website for optics, photonics, and imaging

PUBLICATIONS[SPIE HOME](#) [PUBLICATIONS](#) [CONFERENCES](#) [EXHIBITIONS](#) [MEMBERSHIP](#) [EDUCATION](#)[SPIE Bookstore](#) [Journals](#) [Proceedings](#) [SPIE Press](#) [Magazines](#) [Author Information](#) [Advanced Search](#)**Advanced Search****PUBLICATIONS****Volume Search****Enter Keywords:**Author/Editors

And

Title **Publication Type:**All Types **Publication Status:**Any **Publication Date:**From: Month Year(YYYY) To: Month Year(YYYY) **Technical Interest Area:**All **Sort Results by:**Title **Paper Search****Enter Keywords:****Title Words** All Words ☐ Use synonyms**Abstract Words** All Words ☐ Use synonyms**Authors**Last, First; one name per line All Words ☐ Use synonyms**Publication Date:**From: Month Year(YYYY) To: Month Year(YYYY) **Publication Type:**

- ☒ SPIE Proceedings
☒ Optical Engineering
☒ Journal of Electronic Imaging
☒ Journal of Biomedical Optics

Sort Results by:Score [SPIE Home](#) | [Publications](#) | [Conferences](#) | [Exhibitions](#) | [Membership](#) | [Education](#) |Telephone: +1 360/676-3290 | Fax +1 360/647-1445 | Email: spie@spie.org

© 1994-2003 SPIE—The International Society for Optical Engineering

SPIE Web

The website for optics, photonics, and imaging



home



contact

product
searchjoin
spieview
cart**PUBLICATIONS**

OPTICS COMMUNITY SERVICES

SPIE WORKS

students &
educatorsdiscussion
forumsphotonics
gatewayoptical
libraryoptical
resources

SPIE HOME

PUBLICATIONS

CONFERENCES

EXHIBITIONS

MEMBERSHIP

EDUCATION

SPIE
Bookstore

JOURNALS

PROCEEDINGS

SPIE PRESS

MAGAZINES

AUTHOR
INFORMATIONADVANCED
SEARCHSEARCH PUBLICATIONS »
USING INCITE®☐ Volumes☒ Papers

view cart

**BROWSE
PUBLICATIONS**

- [Aerospace, Remote Sensing, & Astronomy](#)
- [Automation, Inspection, & Product Engineering](#)
- [Biomedical Optics](#)
- [Communications & Fiber Optics](#)
- [Electronic Imaging, Displays, & Medical Imaging](#)
- [Lasers & Applications](#)
- [Microelectronics, Optoelectronics, & Micromachining](#)
- [Optical Physics, Chemistry, & Biology](#)
- [Optical Science & Engineering](#)
- [Signal & Image Processing](#)

Paper Search Results**PUBLICATIONS**

No results were found for:

- **optical path simulation printer**

Try using related or less specific search terms.

| [SPIE Home](#) | [Publications](#) | [Conferences](#) | [Exhibitions](#) | [Membership](#) | [Education](#) |Telephone: +1 360/676-3290 | Fax +1 360/647-1445 | Email: spie@spie.org

© 1994-2002 SPIE—The International Society for Optical Engineering

SPIE Web

The website for optics, photonics, and imaging

**PUBLICATIONS**
[SPIE HOME](#) [PUBLICATIONS](#) [CONFERENCES](#) [EXHIBITIONS](#) [MEMBERSHIP](#) [EDUCATION](#)
[SPIE Bookstore](#) [JOURNALS](#) [PROCEEDINGS](#) [SPIE Press](#) [MAGAZINES](#) [AUTHOR INFORMATION](#) [ADVANCED SEARCH](#)

 SEARCH PUBLICATIONS »
 USING INCITE®

☐ Volumes

☒ Papers


view cart

BROWSE PUBLICATIONS

- [Aerospace, Remote Sensing, & Astronomy](#)
- [Automation, Inspection, & Product Engineering](#)
- [Biomedical Optics](#)
- [Communications & Fiber Optics](#)
- [Electronic Imaging, Displays, & Medical Imaging](#)
- [Lasers & Applications](#)
- [Microelectronics, Optoelectronics, & Micromachining](#)
- [Optical Physics, Chemistry, & Biology](#)
- [Optical Science & Engineering](#)
- [Signal & Image Processing](#)

Abstract**PUBLICATIONS****Simulation of the optical transmission in 3D imaging systems based on the principle of time-of-flight**

Tai, Wei, Schwarte, Rudolf, Heino, Horst G., Univ. Siegen

 Publication: [Proc. SPIE Vol. 4093, p. 407-414, Current Developments in Lens Design and Optical Systems Engineering, Robert E. Fischer, R. Barry Johnson, Warren J. Smith, William H. Swann, Eds.](#)

Publication Date: 10/2000

Abstract:

A time-of-flight (TOF) system based on a novel Photonic Mixer Device (PMD), which detects and demodulates light simultaneously, has demonstrated that it is feasible to realize a 3-D imaging system with compactness, low cost and sufficient resolution for many applications. Active illumination is used in the TOF imaging system. Because of the limited available light source with large bandwidth and in consideration of eye safety, LEDs or low power laser diodes are used as preferable light sources. The received light may be strongly damped in an order of 40- 50dB, depending on the surface characteristics of the objects. Therefore the optical transmission in the light transmission chain of light source-sender lens-object-receiver lens-(PMD) detector array need to be simulated and optimized in order to achieve better performance and maximal power transmission, by the design of such a 3-D camera. Based on the modeling of the light source (laser diodes and LEDs), lens system and statistical characteristics of objects one is able to simulate the light transmission and the light distribution on the object and the PMD detector array. By the use of time-of-flight of the sensing light it is necessary to keep the phase uniformity of the illumination light, because every detector can possibly receive light from different light ways. This would result in a reduction of detection resolution. The optical-path-differences (OPD) representing the time differences from different paths have been simulated from the source to the related pixel for the designed transmitter lens and the receiver lens. Only one source is usually used by direct current modulation of laser diode or LED for uniform modulation phase. The simulation of the light distribution has given estimation of the light gathering efficiency of every pixel and of possible cross talk between adjacent pixels.

©2003 SPIE--The International Society for Optical Engineering. Downloading of the abstract is permitted for personal use only.

You may order this paper or volume online

Order this paper

Order this volume

Use your browser's **Back** button to return to the search results

| [SPIE Home](#) | [Publications](#) | [Conferences](#) | [Exhibitions](#) | [Membership](#) | [Education](#) |

Telephone: +1 360/676-3290 | Fax +1 360/647-1445 | Email: spie@spie.org

© 1994–2002 SPIE—The International Society for Optical Engineering

SPIE Web

The website for optics, photonics, and imaging

BOOKSTORE
PUBLICATIONS
[SPIE HOME](#) | [PUBLICATIONS](#) | [CONFERENCES](#) | [EXHIBITIONS](#) | [MEMBERSHIP](#) | [EDUCATION](#)
[SPIE Bookstore](#) | [JOURNALS](#) | [PROCEEDINGS](#) | [SPIE PRESS](#) | [MAGAZINES](#) | [AUTHOR INFORMATION](#) | [ADVANCED SEARCH](#)
SEARCH PUBLICATIONS BY
USING LIMITED TO
☐ Volumes
☐ Papers

GO

view cart

BROWSE PUBLICATIONS

- Aerospace Remote Sensing & Astronomy
- Automation Inspection & Product Engineering
- Biomedical Optics
- Communications & Fiber Optics
- Electronic Imaging Displays & Medical Imaging
- Lasers & Applications
- Microelectronics Optoelectronics & Micromachining
- Optical Physics Chemistry & Biology
- Optical Science & Engineering
- Signal & Image Processing

Paper Search Results

PUBLICATIONS

Find more information on "Tai, Wei":

► Search the [SPIE Technical Forums](#)► Search the [SPIE Short Courses](#)Sort by Papers 1 to 3 of 3 [[Show Abstracts](#)]

Prices: SPIE Members / Non-Members (list price)

Abstract		Paper
Buy Paper copy	Abstract Diffractional optical element for an electro-optical interface based on photonic mixer device (PMD) Tai, Wei; Schwarte, Rudolf; Buxbaum, Bernd	Vol. 4093 \$12/\$15
Buy Paper copy	Abstract Simulation of the optical transmission in 3D imaging systems based on the principle of time-of-flight Tai, Wei; Schwarte, Rudolf; Heinol, Horst G.	Vol. 4093 \$12/\$15
Buy Paper copy	Abstract On-line detection of 3-D contour and deformation of mechanical parts Li, Guo-Chun; Ye, Bing; Tai, Wei	Vol. 2101 \$12/\$15

Sort by | [SPIE Home](#) | [Publications](#) | [Conferences](#) | [Exhibitions](#) | [Membership](#) | [Education](#) |Telephone: +1 360/676-3290 | Fax +1 360/647-1445 | Email: spie@spie.org

© 1994-2002 SPIE—The International Society for Optical Engineering

L Number	Hits	Search Text	DB	Time stamp
1	4	optical adj path adj simulation	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/15 16:50
2	40	((optic or optical or laser or photo or light or (photo adj electric) or (electro adj photo adj graph)) with (path or beam or route or trajectory or trajectories or direction or axis or axes) with (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating or calibrate or calibrating or calibration)) and (("3" adj D) or (three adj (dimension or dimensional)))) and ((path or beam or route or trajectory or trajectories or direction or axis or axes) adj (color)) and ((path or beam or route or trajectory or trajectories or direction or axis or axes) with (length or distance or diameter)))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/15 17:04
-	33	FUJINO-H.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 20:32
-	0	FUJINO-HIDEKI.in. and FUJINO-H.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 20:32
-	34	FUJINO-HIDEKI.in.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 20:57
-	41106	(optic or optical or laser or photo or light) same (path or beam or route or trajectory or trajectories or direction) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:03
-	45797	(optic or optical or laser or photo or light) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:30
-	18416	(optic or optical or laser or photo or light) with (path or beam or route or trajectory or trajectories or direction or axis or axes) with (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:06
-	8227	((optic or optical or laser or photo or light) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating)) and ((3D or 3-D) or (three adj (dimension or dimensional))))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:33

-	2929	((optics or optical or laser or photo or light) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating)) and ((3D or 3-D) or (three adj (dimension or dimensional)))) and color and (length or distance or diameter)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:36
-	1587	((optics or optical or laser or photo or light) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating)) and ((3D or 3-D) or (three adj (dimension or dimensional)))) and color and (length or distance or diameter)) and mirror	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:12
-	1570	((optics or optical or laser or photo or light) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating)) and ((3D or 3-D) or (three adj (dimension or dimensional)))) and color and (length or distance or diameter)) and mirror) and (moveable or changeable or adjustable or flexible or moving or changing or adjusting or move or change or adjust)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:40
-	734	((optics or optical or laser or photo or light) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating)) and ((3D or 3-D) or (three adj (dimension or dimensional)))) and color and (length or distance or diameter)) and mirror) and (moveable or changeable or adjustable or flexible or moving or changing or adjusting or move or change or adjust)) and (angle same (reflect or reflecting or reflection))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:14
-	407	((optics or optical or laser or photo or light) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating)) and ((3D or 3-D) or (three adj (dimension or dimensional)))) and color and (length or distance or diameter)) and mirror) and (moveable or changeable or adjustable or flexible or moving or changing or adjusting or move or change or adjust)) and (angle same (reflect or reflecting or reflection)) and ((rotate or rotating or rotation or rotational) same (axis or axes))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:16

-	135	(((((optic or optical or laser or photo or light) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating)) and ((3D or 3-D) or (three adj (dimension or dimensional)))) and color and (length or distance or diameter)) and mirror) and (moveable or changeable or adjustable or flexible or moving or changing or adjusting or move or change or adjust)) and (angle same (reflect or reflecting or reflection))) and ((rotate or rotating or rotation or rotational) same (axis or axes))) and (angular with (speed or velocity)))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:16
-	38	(((((optic or optical or laser or photo or light) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating)) and ((3D or 3-D) or (three adj (dimension or dimensional)))) and color and (length or distance or diameter)) and mirror) and (moveable or changeable or adjustable or flexible or moving or changing or adjusting or move or change or adjust)) and (angle same (reflect or reflecting or reflection))) and ((rotate or rotating or rotation or rotational) same (axis or axes))) and (angular with (speed or velocity))) and ((3D or 3-D) same (three adj (dimension or dimensional)) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating)))) and (boundary or limit or wall or obstacle or (road adj block))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:27
-	53430	(optic or optical or laser or photo or light or (photo adj electric) or (electro adj photo adj graph)) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating or calibrate or calibrating or calibration)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:33
-	8261	((optic or optical or laser or photo or light or (photo adj electric) or (electro adj photo adj graph)) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating or calibrate or calibrating or calibration)) and (("3" adj D) or (three adj (dimension or dimensional)))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:35

-	1942	((((optic or optical or laser or photo or light or (photo adj electric) or (electro adj photo adj graph)) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating or calibrate or calibrating or calibration)) and (("3" adj D) or (three adj (dimension or dimensional)))) and (((path or beam or route or trajectory or trajectories or direction or axis or axes) adj (color)) or ((path or beam or route or trajectory or trajectories or direction or axis or axes) adj (length or distance or diameter))))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:39
-	0	((((optic or optical or laser or photo or light or (photo adj electric) or (electro adj photo adj graph)) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating or calibrate or calibrating or calibration)) and (("3" adj D) or (three adj (dimension or dimensional)))) and (((path or beam or route or trajectory or trajectories or direction or axis or axes) adj (color)) and ((path or beam or route or trajectory or trajectories or direction or axis or axes) adj (length or distance or diameter)))) and ((moveable or changeable or adjustable or flexible or moving or changing or adjusting or move or change or adjust) adj mirror)	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 21:41
-	30	((((optic or optical or laser or photo or light or (photo adj electric) or (electro adj photo adj graph)) same (path or beam or route or trajectory or trajectories or direction or axis or axes) same (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating or calibrate or calibrating or calibration)) and (("3" adj D) or (three adj (dimension or dimensional)))) and (((path or beam or route or trajectory or trajectories or direction or axis or axes) adj (color)) and ((path or beam or route or trajectory or trajectories or direction or axis or axes) adj (length or distance or diameter))))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/15 17:35
-	17	(optical adj path adj simulation) or ((electro adj photo adj (graph or graphy)) and (simulate or simulation or simulating or emulate or emulation or emulating or model or modeling or modelling or calculate or calculation or calculating))	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/15 16:44
-	33	399/411.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 22:00
-	824	399/220.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 22:04

-	1257	399/46.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 22:04
-	104	399/38.ccls.	USPAT; US-PGPUB; EPO; JPO; DERWENT; IBM_TDB	2003/06/13 22:04